

# Benjamin P. Nunes

## *Term Address:*

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## *Education:*

### **Massachusetts Institute of Technology** **1998–present**

77 Massachusetts Avenue, Cambridge, MA 02139  
Candidate for a Master of Science degree in Materials Science & Engineering, June 2000.  
Fields of interest: electronic and ceramic materials. GPA 5.0/5.0

Courses: Electronic Materials Design, Microelectronic Devices & Circuits.

### **Massachusetts Institute of Technology** **1994-1998**

Bachelor of Science in Materials Science & Eng., Minor in Mechanical Eng., GPA 5.0/5.0

Courses: Electr. Optic. and Magnetic Matls. and Devices, Microelectronics Processing Tech., Intro. to Ceramics, Ceramics Processing, Polymer Eng., Materials Structure & Processing Labs, Mechanics and Materials. I & II, Design and Manufacturing I & II, Product Engineering Process, Structure and Interpretation of Computer Programs, Circuits and Electronics, Signals and Systems, Computation Structures, Intro. to Computers and Eng. Problem Solving.

## *Proficiencies:*

TSUPREM-4, MEDICI, C, SCHEME, HTML, MATLAB, and UNIX Scripts. Experience working with UNIX, Xterms, MS–Windows, Lotus123, and Macintosh. Some experience with ProEngineer, MasterCAM and ROBOCAD20. Familiarity with lathe, milling machine, drill press, band saw and basic shop tools. Reading, writing, and speaking proficiency in French.

## *Honors:*

National Merit Scholarship (sponsored by Monsanto) 1994  
National Science Merit Scholarships 1994, 1995

## *Work Experience:*

### **Fairchild Semiconductor** **Summer 1998**

333 Western Avenue, South Portland, ME 04106

#### **Summer Co-op, Process Integration Team**

Under Mr. Steven Leibiger and Dr. Ron Hulfachor, studied ion implantation as a means to increase the barrier height and lower the series resistance of N-type Schottky diodes. From the literature, derived an analytical model for Schottky barrier height adjustment. Used TSUPREM-4 and MEDICI to model the fabrication and performance of Schottky diodes with various ion implants. Drew training cross-sections for Fairchild's, new, BiCMOS process. Presented (oral & written) the modeling work done and some promising, preliminary results on raising the barrier height of Fairchild's Schottky diodes. Presented in an IEEE/ASMC'99 poster session.

### **IBM Corp.: Storage Systems Division** **Summer 1997**

3605 Highway 52 N, Rochester, MN 55901

#### **Summer Co-op, Substrate Development & Engineering**

Under Mr. Bradley Offutt, worked on characterizing and identifying sources of waviness on the substrates used to make magnetic hard disks. Tools used to study waviness included: an optical microscope, a Tencor P-1 Long Scan Stylus Profiler, a Chapman MP2000 Plus+ Optical Profiler, a Wyco Topo-3D Interferometer, an AFM, a Zygo GPI-XP Interferometer, and Phase Shift Technology's Optiflat Interferometer. Wrote a technical report outlining the main sources of substrate waviness and some possible corrective measures.

### **Institute Laue Langevin: Diffraction Group** **Summer 1996**

Avenue des Martyrs, BP 156, 38042 Grenoble Cedex 9, France.

#### **Programmer**

Under Dr. Alan Hewat, developed a 3D plotting program, in C, to process raw, neutron-diffraction data and to create a VRML file describing the given data surface. Created an ILL-internal, WWWeb interface (HTML and UNIX scripts) for this plotting program.